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The Relationship between Gender Identity and the Performance of Sex-Typed Behavior in Young Children: A Test of the Cognitive-Developmental Theory

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The Relationship between Gender Identity and
the Performance of Sex-typed Behavior in Young
Children: A Test of the Cognitive-Developmental Theory

By

Victor J. Bernstein

A Thesis Submitted to the Faculty of the Graduate School
of Loyola University in Partial Fulfillment of
the Requirements for the Degree of
Master of Arts

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Life

Victor J. Bernstein was born September 16, 1948 in Chicago, Illinois. He graduated from New Trier Township High School in Winnetka, Illinois in 1966. He received a bachelor's degree in Philosophical Psychology from the University of Chicago in 1970. In September, 1970 he entered the experimental-child development program of the Department of Psychology of Loyola University of Chicago. In June 1972 he married Penelope L. Hensel.

His interest in children began in 1969 when he began working with autistic children at the Michael Reese Hospital Dysfunctioning Child Center in Chicago. In 1971 he began an internship in child research at the Loyola Child Guidance Center. He is presently involved in research, program development, and training of volunteer personnel in a classroom of non-verbal, emotionally disturbed children at the Loyola Day School.

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Chapter I

Introduction

In the area of child development there has been a great deal of continuing interest in the topic of sex-role development. There is an immense number of studies, both personality trait and observational in format, which support the formulation of a difference in behavior between even very young boys and girls. With the recent advent of women's liberation as a social force, most popular emphasis has been on the social and cultural factors which shape the child's behavior into society's stereotyped sex roles. The learning theories of child development have been oriented towards an examination of environmental influences on the child's sex-typed behavior. A number of other theories have also provided explanations of the development of sex differences. For example, the genetic-constitutional theory postulates genetic and hormonal differences as being basic to the development of differences. Psychoanalytic theory emphasizes the child's resolution of the Oedipal conflict as fundamental to the development of sex-typed identification. Most recently cognitive theory as developed by Kohlberg (1966) and Devries (1972) has been offered to account for the development of sex-role differences.

Kohlberg (1966) does not discount the influences of the child's

heredity or environment in contributing to his sex-role development. But he stated that the child's eventual conceptualization of sex differences, which he called gender identity, is of central importance in the child's attaining a stable, socially consistent sex role. Kohlberg (1966) and Devries (1972) have both demonstrated the gradual development of gender identity. They hypothesized that the level of gender identity is a causative factor in sex-typed behavior. However, neither has investigated the relationship between the child's level of gender identity and his sex-typed behavior. The main purpose of the present study is to investigate the hypothesis that the child's level of gender identity is positively related to his degree of one major element of sex-typed behavior: manifest aggression.

Review of the Related Literature

The review which follows consists of four parts. First sex-role preference studies are presented followed by investigations of sex differences in behavioral aggression. Emphasis in these two parts is placed on the findings of quantitative differences between the sexes in their performance on various tasks and in their behavior. Next there is a brief discussion of the various noncognitive theoretical approaches and their own explanations for the existence of differences between the sexes. This discussion is followed by a more extensive presentation of cognitive theory along with consideration of how it could provide a basis for integrating the data from studies for sex-role preference and behavioral observations. At the conclusion of this chapter the hypotheses to be investigated in the present

study are presented. The hypotheses are based on the material discussed in the review section of this chapter.

Preference Studies of Sex Role Development

Brown (1957) developed the It Scale. The Scale consists of an ambiguous stick figure, It, and a number of cards with toys and activities for It to choose. Some of the toys and activities are more appropriate for boys, the others are more for girls. The child is presented with the cards and asked with which ones It would like to play. The range of possible scores on the scale is from 0 (all feminine choices) to 84 (all masculine ones). Brown, in his 1957 standardization study based on 303 boys and 310 girls between 5 and 11 years of age, found that the boys scored more masculine than the girls did feminine. That is, the girls showed an equal number of male-role and female-role choices in kindergarten, they made more male than female choices in the first through fourth grades, and only in the fifth grade did the girls make reliably more feminine choices. The boys, however, consistently selected toys and activities appropriate to their sex. On the basis of his findings, Brown (1958) concluded that sex-role preference is the "tendency to adopt the sex-role of one sex in contrast to that of the other (p. 241)" (Emphasis added). In this scheme, masculinity is seen as the opposite of femininity and femininity is measured as the absence of masculine preferences.

Brown (1962) pointed out that the It figure may appear masculine and thus create an artifact in the girls' responses. The girls, who were

supposed to have projected their own preferences on the neutral figure, instead may have been reporting male preferences. Brown himself raised questions about the validity of the girls' scores in the 1957 standardization study. Sears, Rau, and Alpert (1965) pointed out in their extensive study of identification and child rearing practices that the "median correlation among the five nursery school and assessment measures of sex-typing and gender role is .36 for boys and .15 for girls. This difference in median correlations hides the fact that all the girl's other measures correlated near zero with the It Scale even though the intercorrelations among these measures were quite high, ranging from .32 to .71 (p. 180)." Schell and Silber (1968) assigned the It figure a sex and got more reliable results. Fiske (1971) and Kohlberg (1966) have criticized the It Scale and similar projective tests because they require the above mentioned assumption of the child's projection of his own ideas into the task. The examiner can never be sure whether the child is doing this.

In addition to sex differences in sex-role preferences, sex-role comprehension has been found to be related to age. Emmerich (1959a) found that with increasing age boys became more aware of sex-appropriate behavior while girls did not in the age range of 3 to 5 years. Hartup and Zook (1960) looked at the responses of 3-year-old and 4-year-old-boys and girls on the It Scale. Four-year-old boys were significantly more masculine than 3-year-old boys. The older girls were somewhat more feminine, but not significantly so. Schell and Silber (1968) found a similar result

using a modification of the It Scale. Although young children showed more sex-appropriate choices with age, boys showed these changes more consistently than girls.

DeLucia (1963), using the Toy Preference Test, gave 113 boys and 113 girls aged 5 to 9 pairs of pictures of toys and a picture of a boy or a girl. The toys had been rated on a scale of masculinity-femininity by college students. The subject was asked which toy of each pair the pictured child would prefer. One experimental group was punished, the other rewarded for their choices. The experimental conditions had no effect on later choices on another form of the test. The author's interpretation of the results was that sex-role preferences are not easily modifiable. The author also concluded that even younger subjects could reliably assign the toys most clearly on the boy or on the girl end of the continuum. The older children could make finer discriminations of the boy or girl preference. This result implies that with age the children from ages 5 to 9 become more familiar with boy and girl sex roles.

Hartley, Hardesty, and Gorfein (1964) used the Role Distribution Series to assess children's knowledge of their own and opposite sex roles. Ninety-one girls and 40 boys (8 and 11 years of age) were asked 57 questions to ascertain how much they knew about each sex role. Boys and girls at these ages knew the stereotyped sex roles as well as adults. Although the 8-year-olds were slightly lower, the difference was not

significant. Also there were no age differences. The findings of no age difference is in contrast to DeLucia's (1963) findings of increasing sex-typing with age. However, the fact that the youngest of Hartley et al.'s subjects were nearly as old as DeLucia's oldest subjects may account for this difference.

In summary, there appears to be a trend in the sex-role knowledge investigations for age to be a significant independent variable in the development of understanding about sex roles. Young children, especially girls, (Emmerich, 1959a; Hartup & Zook, 1960; Schell & Silber, 1968) are somewhat vague in their knowledge of sex-role stereotypes and increase their comprehension until age 8 or 9 (DeLucia, 1963). Then they level off and their knowledge changes little into adulthood (Hartley & Hardesty, 1964).

Studies of Aggression in Young Children

Many investigators using observational approaches have reported behavioral differences between boys and girls as early as nursery school. Maccoby (1966) and Goldberg and Lewis (1969) have noted differences at 1 year of age. Boys, for the most part, have been found higher in all forms of aggression. Sears, Rau, and Alpert (1965) found that three-year-old boys were higher in antisocial aggression. However, they were not different from girls in verbal aggression. The intercorrelation of measures of aggression was higher for boys than for girls-- a fact that suggests greater consistency in boys' expressions of aggression. Siegel (1956) found that pairs of boys between 3 and 5 years of age fought significantly more than pairs of girls at the same ages. Walters, Pearce, and Dahms (1957) found

that boys between the ages of 2 and 5 fought more. Similarly, Whiting and Whiting (1962) reported that boys in ~~six~~ cultures between 3 and 6 years of age participated in more physically aggressive acts. Bandura, Ross, and Ross (1963) found that preschool boys were consistently higher in physical, and occasionally higher in verbal, aggression.

There are, however, a few studies which have reported no differences in aggression in preschool children. Sears, Whiting, Nowlis, and Sears (1953) found no observable differences in classroom behavior of nursery school boys and girls. Muste and Sharpe (1947) found nursery school boys slightly more physically aggressive and girls more verbally aggressive. However, none of the differences was found to be significant. McKee and Leader (1955) found no differences in 3 and 4-year-old boys and girls in their aggressive behavior.

Feshbach (1970), in reviewing sex differences in aggressive behavior, noted that the only studies in which no difference was found between boys and girls in behavioral aggression involved children age 5 and under. However, as noted above, other authors have reported that boys this age were more aggressive than girls. The conflicting data for these younger age groups compared with the universal result that males are more aggressive than females in studies of older children and adults (Feshbach, 1970) suggest the possibility that aggressive behavior shows an increase with age for boys. This reasoning implies the possibility that 3-year old boys and girls are more similar in the type and amount of aggressive behavior displayed than boys and girls who are 5 years of age and older. It should be noted that the hypothesized similarity in aggressive behavior of younger children

corresponds in terms of age to the lower levels of knowledge of sex roles as derived from the preference studies discussed in the previous section. A possible relationship between the two types of data will be hypothesized below.

Maturational-Genetic Viewpoint

This view proposed that young males and females are different from each other in several ways. There is evidence from physiological and observational studies of subhuman and human young to support this statement. Levine (1966) hypothesized that mammalian behavior patterns are basically female and that male behaviors (mainly aggression) are a function of the level of testosterone, the male sex hormone, present in the brain. He supported his hypothesis by showing that female newborn of lower mammalian species who were injected with testosterone display aggression and other characteristically male behaviors. Male newborns of the same species who received female sex hormones did not develop female behavior characteristics. One basis for the behavioral difference between males and females would be, then, the presence of the male hormone testosterone.

Hamburg and Lunde (1966) reported that the injection of male hormones into pregnant female monkeys can affect the behavior of female offspring throughout life. The authors suggested that the introduction of the hormones into the mother affected the differentiation of the brain structures, thus accounting for the permanence of the male behavioral characteristics.

Observational studies of monkeys (DeVore, 1965; Harlow, 1962) have provided evidence that infant male monkeys participated in aggressive play considerably more than females. DeVore proposed that it is from this play

that the male develops the skills necessary for the protection of his group when he reaches maturity.

Bell and Costello (1964) found constitutional sex differences present at the time of birth in the human newborn. They found that newborn females react more to a variety of types of tactile stimulation than do newborn males. Wolff (1965) found the same differences between the sexes in slightly older infants.

In summary, there seem to be constitutional differences between boys and girls which affect their behavior. This difference has been attributed not only to hormonal differences but to the fact that girls have more genetic material, the longer X chromosome, that could differentially affect their constitution from that of boys (Hamburg & Lunde, 1966).

Broverman, Klaiber, Kobayashi, and Vogel (1968) reviewed a great deal of literature concerning differences between men and women in performance on different kinds of cognitive and performance tasks. The authors evaluated the literature as conclusively showing that males were superior to females in tasks involving problem solving and ability to delay responses (e.g. mazes and embedded figures). Females do better than men on tasks requiring speed and fine motor coordination. The women were better on simple over-learned perceptual motor tasks, (e.g. clerical aptitude and manual dexterity). They argued that these known sex differences in cognitive abilities are directly related to hormonal differences between men and women, and particularly the effects of testosterone and estrogen on the central nervous system.

Learning Viewpoint

There is a large body of evidence from the field of social learning

which indicates that biological influences are subordinated to the influence of the environment in the development of sex roles in children. Mischel (1966) operationally defines sex-typed behavior as that which gets rewarded differently for one sex than for the other. The learning literature suggests that sex-typed behavior can be predicted on the basis of discriminable antecedent stimuli and consequences of behavior. In general, physiological mechanisms are not considered to be a relevant influence on social behavior, except in extreme variations from normal social behavior, such as found in mental retardation. Concepts, attitudes, opinions, or values are not seen as being causes of behavior (Mischel, 1970), but rather the products of behavior. Festinger (1957) also argued that attitudes are the result of behavior and not the reverse.

The following two studies illustrate the effect of learning on sex-role behavior and physical characteristics. Hampson, Hampson, and Money (1955) studied children who were chromosomally and hormonally male but were raised as females because of the abnormal physical structure of their genitals. They found that the majority of the subjects were well adjusted in their female sex roles.

Mead (1935, 1949) also stressed the importance of social learning in her cross-cultural studies. In the 1935 study she compared the sex-role behavior of adults of the Arapesh and Mundugumor tribes of New Guinea. She found the Arapesh men and women both to be nurturing and affectionate towards their children. Sexual activity was not a strong drive in either sex, and both men and women were relatively nonaggressive. In contrast, the Mundugumor men and women were both very aggressive, sexually demanding,

and neither wanted to fulfill responsibilities for the care of the children. In the 1949 study she explained how somatotypic differences between the sexes (which one ordinarily would think are the result of biological differences) can be greatly modified by experience. In Bali, men do not do much heavy physical work. They perform light work steadily rather than over-exerting themselves and having to rest. The men and women both have slender physiques. Bali men who unload ships at the European-owned docks develop heavily muscled physiques that would be considered normal for males in our country. Mead concluded that what we consider typical differences between the sexes are socially learned and experientially influenced creations which may vary from culture to culture.

A major tenet of social learning theory is that children learn from observation without being directly reinforced or punished. Bandura, Ross, and Ross (1961) found that children when frustrated imitated aggressive models without reinforcement. Important for consideration in the present paper is the question of what are the conditions which affect the process of imitation. Bandura (1962) noted that boys imitate male models more than girls and girls imitate female models more than boys. In their 1963 study, Bandura, Ross, and Ross investigated the responses of 48 boys and 48 girls who were exposed to live and film models of both sexes who act aggressively. Following mild frustration the children's behavior was rated in terms of imitative aggression. The authors found that sex of the model, sex of the subject, and sex appropriateness of the model's behavior were influential factors in determining the extent and type of modeling.

Instrumental learning approaches to socialization have assumed that

the learning of sex differences can be described by gradual behavior shaping through naturally and culturally based reinforcement contingencies. Staats and Staats (1968) suggested that children are differentially reinforced by parents, peers, and teachers for appropriate sex-role behaviors. Boys and girls are reinforced (and encouraged) to do sex appropriate activities.

Psychoanalytic Viewpoint

The psychoanalytic model uses identification with the same sexed parent as the causative factor in the explanation of the development of sex-typed behavior. At around age five the child enters into a competitive relationship with the same-sexed parent for the parent of the opposite sex. The same-sexed parent becomes angry with the child, and the child (sensing the parent's anger) fears loss of love from the parent. In addition, boys are supposed to experience a fear of their fathers' injuring them; often it is a fear of castration. To escape this problem, the child gives up the wish for the opposite-sex parent and achieves a state of safety by choosing to identify with the same-sex parent. For boys, this has been termed identification with the aggressor. Modern psychoanalytic researchers have changed the term to identification to cover a broader range of circumstances. Generally the child identifies with the parent who controls the power (boys seem to be more sensitive here) or controls the love (girls seem to be more sensitive to the nurturing parent). Some of the research has looked at the nature of the child's understanding of parental roles before and after the Oedipal period. The following studies exemplify the kind of corroborative, correlative evidence often cited.

Kagan and Lemkin (1960) interviewed 32 boys and 35 girls 3 and 6 years

years of age. The children were asked questions pertaining to their parents' nurturance, punitiveness, and competence. The youngest children said their fathers were bigger and stronger than their mothers. Slightly older children added that their fathers were smarter, and 6-year-olds said that their father was the boss. Girls wanted to emulate their mothers and boys their fathers. Girls and boys saw their mothers as more nurturant; the girls saw them slightly more so. The authors concluded there was a significant age effect corresponding to the Oedipal period in terms of children's perceptions of their parents' sex roles. The older the children were, the more sex-typed characteristics they attributed to their parents. Emmerich (1959b) found a significant difference ($p < .001$) between 4-year-olds and 6-year-olds in their ability to perceive the role of fathers as powerful. This is an expected change which psychoanalysts would predict during the Oedipal period.

Cognitive Viewpoint

Kohlberg (1966) considered the various viewpoints presented above. He believed that these viewpoints all have some merit in that they relate to the child's development of sex-typed behavior before he develops his stable concept of gender identity. For example, Kohlberg did not deny that identification with the same sex parent occurs, but that the manner of its happening is reversed from the social learning and psychoanalytic presentations. For Kohlberg there is first gender identity (this is the last stage in psychoanalytic identification). Then, for sons, there is a conscious, cognitive modeling of the father because of the child's conceptualization that he and the father are of the same sex. And finally, there is an attachment to (or identification with) the father because of the gratifica-

tion which has come from the child's modeling. Thus, for Kohlberg, the child's cognitions of first himself as male, is a prerequisite to the performance of sex-typed behavior beyond the time when the child is able to conceptualize sex roles. Kohlberg does not attempt to explain the development of gender identity for girls.

Kohlberg had a view-of-the-child which led him to develop his cognitive theory of sex-role development. The view is based on cognitive consistency and competence motivation. That is, the young child deals with and interprets new situations in terms of and consistent with his understanding of old ones. A later step involves the child making value judgments that are consistent with his understanding of himself. Thirdly, the child feels competent by adequately fulfilling his conceptualized sex role, and therefore the role takes on value for him. And based on a self-concept, imitating a similarly perceived (same sex) person, brings the child a sense of accomplishment. The self-directed involvement with sex-typed behavior is not possible (and neither is the concomitant sense of competence) until the child has established gender identity.

Conceptualization of the sex roles is basic for Kohlberg's discussion. Gender identity is defined in classificatory terms. A child lacking in gender identity can label but cannot generalize and abstract about sex roles. For example, Kohlberg mentioned the 3-year-old boy who could say he was a boy, but thought everyone else was also a boy including his mother. A majority of 4-year-old boys and girls said an imaginary boy could not be a girl if he wanted to. But the imagined boy, according to most of Kohlberg's 4-year-old subjects, could change into a girl if he were to grow his hair

long and wear girls clothes. These, he implied, were levels of gender identity. The level of conceptualization necessary to maintain the imagined boy's gender identity through changes in his physical state is seen as being developmentally more advanced than the level of concept development necessary to attain the knowledge that wishes will not change one's sex. Kohlberg (1966) implied that levels of gender identity exist, but he did not attempt to define or order them.

Kohlberg and Zigler (1967) investigated sex-typing as a function of cognitive development as measured by I.Q. for boys who were 4 and 8 years of age. No girls were included. The authors found that I.Q. scores were positively correlated with sex-typed picture preferences, doll-play choices of attachment, doll-play measures of imitation, and same-sex sociometric preferences. They concluded that I.Q., as implying level of conceptual development about sex roles, was positively related to projective choices on various types of tasks. It is confusing to the present author that Kohlberg and Zigler chose projective techniques when Kohlberg (1966) criticizes them methodologically. Although he briefly mentioned a test of levels of gender identity, he has not expanded upon this in his subsequent work.

Devries (1969, 1972) made cognitive theory operational. Her first study focused on the attainment of generic identity. She first presented 4- to 6-year-old children with a real cat and asked them if it could be a dog (or rabbit) if it wanted to. Next, leaving the back half of the cat exposed, she put a very realistic, fierce looking dog mask (a rabbit mask in another condition) on the cat, and then she asked the children if the

animal were now a dog (or rabbit) or a cat. Four-year-olds consistently thought it a dog (rabbit) while 6-year-olds thought it a cat. She interpreted her results as indicative of differences in the children's cognitions that develop with age, differences which she considered different levels of generic identity.

Devries (1972) transferred her paradigm from dogs and cats to boys and girls. She devised a systematic test based on Kohlberg's above mentioned ideas. Basically, the test involves showing a child a series of pictures. First a picture of a girl is presented and the subject is asked whether she could be a boy if she wanted to. Then the subject is asked if she would be a boy if she played with guns and did boys' things. Next she is pictured with a boy's haircut, then in boy's clothes, and finally in boy's clothes and a haircut (i.e., the picture shows a boy). If the child can still say the last picture is a girl, then he has, according to Devries' measure, high gender identity. The maintenance of the initial sex concept, i.e., she stays a girl, for the intermediate pictures presumably measures an intermediate stage in the attainment of gender identity. The question about wanting to change sex is considered the most basic level. Devries determined her levels empirically using a Guttman scale.

The cognitive theory of sex-role development is recent. Devries' Boy-Girl Identity Task, as modified by Emmerich (Emmerich, 1971) is the only measure available to measure the child's level of gender identity. Emmerich modified Devries' stimuli in two ways. First he replaced the series of pictures with a single two-level card which could be manipulated to make the changes in physical states which Devries used. Second, he created the

complement to Devries' original stimuli by adding a picture of a boy to represent the initial state with subsequent changes reflecting increasing femaleness.

The present study relates the subjects' (children 3, 4, and 5 years of age) amount of behavioral aggression to their level of gender identity as defined by Devries' scoring of their responses to Emmerich's stimuli. The present author developed a measure of stereotyped sex-role expectations as an additional cognitive measure of the children's ability to make generalizations about sex roles.

Hypotheses and Rationale

The hypotheses below refer to the subjects of this study who are pre-school children 3, 4, and 5 years of age. Three measures are used in the study. First, the Boy-Girl Identity Task, described above, is used as a measure of gender identity, i.e., the ability to abstract a rule about the constancy of an initial sex-state. The second measure is the present author's own scale of stereotyped role expectations. This measure is used to assess the child's knowledge of sex roles. The third measure is a teacher rating scale of behavioral aggression which is a total of antisocial or aggressive activity and prosocial or assertive activity of the child. The hypotheses are deducible from cognitive theory. Where possible, the relevant supporting literature is cited.

1. Young children's gender identity increases with age. This hypothesis is supported by Devries (1972) and indirectly received support from Kohlberg and Zigler (1967).
2. Young children's knowledge of stereotyped behavioral expectations in-

creases with age. Evidence for this hypothesis comes from Hartley, Hardesty and Gorfein (1962). Other authors (DeLucia, 1963; Schell & Silber, 1968) found age-related increases in ability to select role-related tasks.

3. Young boys are slightly more aggressive than young girls while older boys are significantly more aggressive than older girls. The younger children are thought to be under the influence of learning only. The older children are thought to be under the influence of learning and cognition, thus the greater difference between the sexes. Although many investigators of aggression in preschool children have found sex differences, some authors (McKee & Leader, 1966; Sears Whiting, Newlis, & Sears, 1953) reported no differences in boys' and girls' aggression.

4. It is hypothesized that girls are as high or higher than boys in assertive behavior since it is more consistent with their stereotyped sex role. Girls have been found higher in assertive behavior (prosocial and verbal aggression) by some investigators (Muste & Sharpe, 1947; Sears, 1961).

5. The level of boys' gender identity is positively related to their amount of aggression. The girls' level of gender identity is negatively related to their amount of aggression.

6. The child's level of identity is positively related to his knowledge of stereotype behavioral expectations.

7. The boys' knowledge of stereotyped sex roles is positively related to their amount of aggression. The girls' knowledge of stereotyped sex roles is negatively related to their own amount of aggression.

Chapter II

Method

Subjects

The subjects of this study were 33 boys and 33 girls ranging in age from 36 to 76 months. The children came from two different settings. The first is a parent-operated preschool where the children attend either in the morning or the afternoon. Three boys and five girls 3 years of age, four boys and six girls 4 years of age, and four boys and eight girls 5 years and older were involved from this school. Permission to conduct the study was received from all of the parents.

The second facility is a day-care center where the children attend at least from 9:00 in the morning until 4:00 in the afternoon. Eight boys and six girls 3 years of age, seven boys and five girls 4 years of age, and seven boys and three girls age five and older came from the day-care center. Parents signed individual permission slips for their children's involvement as subjects.

There are a number of differences between the two settings besides the number of hours in attendance. Only two mothers of the children in the parent operated school were employed while very few parents of the day-care children did not work. Also, almost all the children in the parent-run school came from intact, white, middle-class families. More than one-quarter of the children in the day-care center came from single parent families and there were more than two subjects from each of the following nationalities or social classes: urban white, rural white, Negro, Oriental, Philipino, and Latin American. There were, however, on inspection of the data, no differences

in the subjects' performance on any measure when they were divided on the basis of their setting. For purposes of comparison in this study the subjects were divided into three groups by age (i.e., 3, 4, and 5 years of age and older) and on the basis of sex.

Measures

Three measures were used in this study, two of which were developed by the present author. The first is the Boy-Girl Identity Task as revised by Walter Emmerich and the Educational Testing Service (Emmerich, 1971). This test was originally developed by Devries (1969, 1972). The present form of the test consists of two stimuli, each being the complement of the other, and 10 questions, 5 asked about each stimulus. Stimulus I, a picture of a girl (Janie) is on a pastel-colored piece of cardboard folded into the form of a two-page 8 x 10 inch book. On the top page is Janie, a drawing representing a girl with long hair wearing a dress and party shoes. On the page below in exactly the same position is a picture of a crew-cut boy with dungarees and tennis shoes. The figures (see Appendix A) are carefully drawn so there could be no mistaking Janie for a boy or the picture below for a girl. The picture of Janie is cut at the neck so the head, the body portion, or both could be folded back to reveal the boy's head, his torso, or the whole boy himself. Stimulus II, a picture of a boy (Johnny), is the exact reverse in form of Stimulus I. The picture of Johnny, the same boy figure shown in Stimulus I but in different attire, is on top with the cut across his neck, and the picture of a girl similar to Janie is on the exact same place below.

The kind of questions Devries asked her subjects are listed above in

the previous chapter (Section on Cognitive Viewpoint). The questions used in the present study are shown in Appendix A. The responses to the Boy-Girl Identity Task were scored following Devries (1972) approach which used a Guttman Scale. However, this scoring was slightly modified for use with Emmerich's form. That is, the score for Stimulus I and Stimulus II were added together to determine the total score. The responses to each stimulus were scored as follows (scoring procedure for Stimulus I, Janie):

- 1 point: Subject shows hesitation at the suggestion a girl can become a real boy.
- 2 points: Subject says a girl cannot become a boy if she wants to.
- 3 points: Subject says Janie is still a girl even if she plays with trucks and does boy things.
- 4 points: Subject says Janie is still a girl even if she puts on boys clothes when the investigator folded back piece with her dress, leaving Janie's head and boys clothes.
- 5 points: Subject says Janie is still a girl even if she has her hair cut to look like a boy when the investigator folded back Janie's head and leaving the boy's head with her clothes.
- 6 points: Subject says Janie is still a girl even if she has her hair cut short and wears boys' clothes when the investigator folded back both pieces; one after each statement, first the head and then the body piece. (The boy picture is now completely exposed).
- 7 points: Subject makes a statement concerning the concept of identity such as, "A girl is a girl."

8 points: Subject makes a statement of a rule concerning the relationship of the two pages of the Janie Stimulus such as, "A girl is a girl and she cannot change."

The subject was given the score of the highest level he/she reached on each stimulus even if he/she missed a number of earlier questions. This scoring procedure was used because Devries (1972) found that the scoring criteria are arranged in order of increasing difficulty and the scoring is aimed at finding the highest level of conceptual development. Devries (1971) found that by using Green's summary statistic that her subjects' responses were analyzable in terms of a Guttman scale. The lowest possible score on the present form of the Boy-Girl Identity Task is 0 and the highest possible is 16 when the scores from the two stimuli are added together (total score). For purposes of analysis the total scores were dichotomized on the basis of High Identity (10-16 points) and Low Identity (0-9 points), the split being closest to the median. The reliabilities for the parts of the Boy-Girl Identity Task were all satisfactory. The reliability between the scores on Stimulus I and Stimulus II was .77. It was .94 between the score on Stimulus I and the total identity score, and it was .95 between the Stimulus II score and the total. All reliability coefficients are significant at the .01 level for 64 df.

The second measure (see Appendix B) was designed to test the child's knowledge of stereotyped sex-role expectations. Eight questions were asked of the child, for example, "Who is stronger, boys or girls? Why are (boys, girls) stronger?" A conventional answer was scored one and a non-stereotypic one zero. The scores could range from 0 to 8 with higher scores

indicating greater stereotyping.

The third measure was the Assertive and Aggressive Behavior Rating Scale on which all the subjects were rated by their teachers on 11 assertive and 11 aggressive behaviors. Each item was scored on a 5-point scale. An example of a rating on an aggressive behavior follows below (the complete Scale is in Appendix C):

Number of times in class period	<u>Never</u>	<u>1-2 Times</u>	<u>3-4 Times</u>	<u>5-6 Times</u>	<u>7 or more Times</u>
1. Started a physical fight	_____	<u>X</u>	_____	_____	_____

Never is scored one point; 7 times or more is scored 5. If a boy started a fight twice in a class period he would be scored with a 2 on the above item. The lowest possible score is 22, the highest is 110. The scale was divided into assertive and aggressive sections of 11 items each for statistical analysis. The interrater reliability of the Assertive and Aggressive Behavior Rating Scale was found to be satisfactory also ($\bar{r} = .82$, $p < .01$ for 8 df). The coefficient was obtained by having two teachers in one class independently rate 10 of their students at the end of the day, each teacher rating the same child on a given day. Each teacher only rated one child per day.

Procedure

The identity and stereotype measures were administered by the investigator and each subject was tested individually at his/her school. The investigator began the testing by using his tape recorder with the subject in a playful manner. The subject was asked several questions about his clothing and family and then was permitted to hear what he said. This

served the purpose of involving the subject in the testing situation. Next the subject was asked the eight questions about stereotyped sex roles. The the subject was told to close his eyes and the first stimulus was presented by the investigator.

The examiner asked five questions concerning each stimulus. An example follows below. A complete list of the questions may be found in Appendix A. The investigator presented the Janie picture (Stimulus I) and asked, "This is a girl, isn't it? Her name is Janie. Let's think of Janie as a real girl. If Janie really wants to be a boy, can she be?" The child's response was noted and then he was questioned further in order to ascertain his understanding of his affirmative or negative reply. The inquiry was done to test the limits of the child's concepts rather than just relying on his initial answer. Stimulus II, the boy card, was then presented and the five appropriate questions were asked in the same manner as for Stimulus I.

The teachers were instructed by the experimenter to rate only one child each day on the Assertive and Aggressive Behavior Rating Scale so as to avoid confusion. Each teacher completed the Scale immediately at the end of the school day. The order of rating the children was decided by the teacher. The teachers had no idea of the subjects' scores on the other measures or of the hypotheses under investigation. The experimenter had no idea of the subjects' scores from the teacher ratings until testing was completed.

The teachers observed each child from their class for one 2-hour period. Three different teachers rated the 3-year-olds, three different ones the 4-year-olds, and three teachers rated children age five and over. The

teachers in the day-care center were instructed not to rate during the time the child was eating or napping. This was done to make the rating conditions as uniform as possible between the two settings.

Chapter III

Results

The results of the present study are presented in terms of the hypotheses enumerated in Chapter I. First, the data concerning gender identity and stereotyped sex-role expectations are discussed, followed by the data from the Assertive and Aggressive Behavior Rating Scale. Finally, the data relating the cognitive measures to the Scale are presented.

The hypothesis concerning identity scores states that children's understanding of gender identity (that boys remain boys and girls remain girls) should increase with age. Since gender identity is an aspect of cognitive development, no sex differences were anticipated on the assumption that the process of conceptual development is similar for both boys and girls. The means and standard deviations for the identity scores (Table 1) are presented in terms of both its components, the girl card (Stimulus I) and the boy card (Stimulus II), as well as total scores. Table 2 shows the results of the 2 (sex) by 3 (age) analyses of variance for each of the identity scores. Since none of the analyses showed a significant main effect for age, the developmental hypothesis was not supported. However, the main effect for sex on the girl card approaches significance ($F = 3.42$, $p < .10$). There was also a significant age X sex interaction on the girl card and on the total identity score. The source of these significant interactions may be ascertained by inspection of Table 1. The significant results in both cases arose mainly from the fact that the 3-year-old girls were the highest of all the girl age groups on both the girl card and on the total while the 3-year old boys had the lowest score on the girl card and on the total identity

Table 1

Means and Standard Deviations for Scores on the Identity

Task for All Subjects ($N = 66$)

Identity Scores

Age	Boys			Girls			Both	
	Girl Card	Boy Card	Total	Girl Card	Boy Card	Total	Total Identity	
3	<u>M</u>	4.09	3.27	7.36	4.90	4.45	9.36	8.36
	<u>SD</u>	1.73	2.00	3.47	1.14	1.38	2.35	3.12
4	<u>M</u>	5.63	4.81	10.45	3.27	3.73	7.00	8.72
	<u>SD</u>	1.26	1.55	2.59	1.67	2.46	2.98	3.27
5+	<u>M</u>	5.36	5.45	10.82	4.72	4.55	9.27	10.05
	<u>SD</u>	1.73	1.55	3.27	1.61	2.14	3.70	3.42
Total	<u>M</u>	5.03	4.51	9.55	4.30	4.24	8.54	
	<u>SD</u>	1.70	1.98	3.46	1.64	1.82	3.22	

Table 2

Analysis of Variance for Scores on the Identity Task for All Subjects

(N=66)

Source	Girl Card				Boy Card			TOTAL		
	<u>df</u>	<u>MS</u>	<u>F</u>	<u>p</u>	<u>MS</u>	<u>F</u>	<u>p</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Sex	1	8.72	3.42	.10	1.23	0.36	NS	16.50	1.58	NS
Age	2	2.38	0.93	NS	7.28	2.16	NS	17.22	1.65	NS
Age X Sex	2	13.95	5.46	.01	8.77	2.60	.10	42.10	4.04	.05
Error Term	60	2.55			3.36			10.42		

score of all boy age groups. To summarize, gender identity as a measure of cognitive development which increases with age was not supported by the data.

Stereotyped behavioral expectations scores were collected by the author for the purpose of assessing a less abstract cognitive function in the child's evaluation of sex roles. Stereotyping is seen as more concrete in that it is considered to be the child's making rules about experience rather than a concept of identity, that is not only a rule, but also an abstraction, a level removed from daily events. Again, since this is a cognitive measure, a main effect for age but not for sex was expected. Table 3 shows the means and standard deviations for the stereotype scores. Table 4 show the results of the 3 (age) X 2 (sex) analysis of variance for scores on the stereotyped sex-role expectations scale. There was a very significant main effect for age ($F = 14.35$, $p < .001$), a significant main effect for sex, ($F = 9.03$, $p < .01$), and no significant interaction. As hypothesized, the means for both boys and girls showed clear increases with age. The fact that the boys were consistently higher than the girls (although their differences were less at age 5) accounted for the unanticipated main effect for sex.

With respect to aggressive behavior, it was hypothesized that young boys and young girls are more similar to each other in amount of total aggression than older boys are to older girls. Specifically, it was predicted that both groups of 3-year-olds would be intermediate to older boys (who would be highest in total aggression) and older girls (who would be lowest). Statistically, a significant interaction between age and sex was hypothesized. Table 5 shows the means and standard deviations for all the aggression scores.

Table 3
Means and Standard Deviations for Stereotype Scores by
Age and Sex (N=66)

Stereotype Scores

		Boys	Girls	Total
Age				
	3			
	<u>M</u>	4.27	3.36	3.81
	<u>SD</u>	2.77	1.87	2.43
	4			
	<u>M</u>	6.64	4.09	5.36
	<u>SD</u>	1.22	1.67	1.95
	5+			
	<u>M</u>	7.00	6.45	6.72
	<u>SD</u>	0.71	1.34	1.14
Total	<u>M</u>	5.96	4.63	
	<u>SD</u>	2.19	2.10	

Table 4

Analysis of Variance for Stereotype

Source	<u>df</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Sex	1	29.33	9.03	.01
Age	2	46.60	14.35	.001
Age X Sex	2	6.24	1.92	NS
Error Term	60	3.24		

The 3 (age) X 2 (sex) analyses of variance for assertive behavior, aggressive behavior, and total aggression are presented in Table 6. There was a significant main effect for sex on the assertive behavior scores ($F = 24.46$, $p < .001$), the aggressive behavior scores ($F = 12.66$, $p < .001$), and the total aggression scores ($F = 20.93$, $p < .001$). Neither the main effect for age nor the interaction for age and sex was significant.

The analysis of variance results for all scores are interpretable from the inspection of the means. The boys and girls displayed the same amount of all types of aggression over age, with the boys consistently showing much more aggressive behavior than the girls. Thus, the hypothesis concerning age and aggression was not supported.

It was further hypothesized that, following Sears (1961) boys should exhibit more aggressive (intent of injury or destruction) behavior and girls more prosocial or assertive behavior. Inspection of the means in Table 5 shows that neither was this hypothesis supported. Within sex groups, there was a trend in this direction; the boys were more aggressive than they were assertive and the girls were more assertive than aggressive. However, boys were much higher in prosocial aggression than were the girls. Both assertive and aggressive behavior were highly correlated. The Pearson product-moment correlation between these behaviors was $.76$ ($df = 64$, $p < .01$). The correlation for assertive behavior and total aggression was $.94$ ($p < .001$, $df = 64$) and the coefficient was the same between aggressive behavior and total aggression.

The central hypothesis of this study concerned the relationship between the child's level of conceptual development with respect to gender identity

Table 5

Means and Standard Deviations for Assertive and Aggressive Behavior
and Total Aggression (N=66)

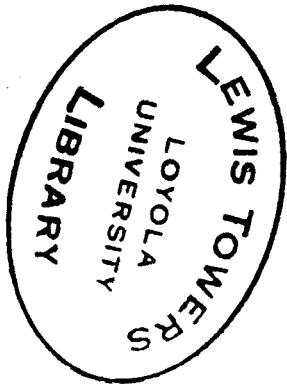
Aggression Scores								
		Boys			Girls			Boys and Girls Total
Age		Assertive	Aggressive	Total	Assertive	Aggressive	Total	
3	<u>M</u>	17.76	20.18	37.91	14.73	14.26	29.00	33.45
	<u>SD</u>	5.52	4.06	8.74	2.35	4.06	6.66	8.94
4	<u>M</u>	17.10	20.45	37.55	13.82	13.66	27.45	32.50
	<u>SD</u>	3.88	5.23	8.25	2.37	2.01	4.20	8.30
5+	<u>M</u>	18.45	19.00	37.45	14.55	12.90	27.45	32.45
	<u>SD</u>	6.86	5.35	13.30	2.45	2.12	4.41	11.09
Total	<u>M</u>	17.76	19.88	37.63	14.36	13.61	27.96	
	<u>SD</u>	5.71	4.94	10.39	2.53	2.92	5.29	

Table 6

Analysis of Variance for Assertive Behavior, Aggressive Behavior
and Total Aggression Scores

(N=66)

Source	Assertive				Aggressive			Total Aggression		
	<u>df</u>	<u>MS</u>	<u>F</u>	<u>p</u>	<u>MS</u>	<u>F</u>	<u>p</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Sex	1	501.88	24.46	.001	284.38	12.66	.001	1541.80	20.93	.001
Age	2	2.56	0.12	NS	2.23	0.09	NS	7.02	0.09	NS
Age X Sex	2	6.56	0.32	NS	8.01	0.35	NS	2.38	0.03	NS
Error Term	60	20.51			22.46			73.66		



and its relationship to overt sex-typed behavior. Specifically, it was hypothesized that boys high in gender identity display the most total aggression while girls high in gender identity display the least total aggression. Boys and girls low in gender identity were hypothesized to be much closer in aggression and to score intermediate between the other two groups. Table 7 shows the number of subjects in each cell and the cell means for aggression when the groups were dichotomized in terms of high and low identity scores. (High identity was defined as ≥ 10 ; low identity was ≤ 9 for both boys and girls.) On inspection there were clearly no differences in amount of aggression in terms of identity scores. Since the boys, as indicated in the previous analysis, were consistently and significantly more aggressive than the girls, between group comparisons would not provide information about trends in the data. Consequently, the relationship was investigated by considering boys and girls separately. The within group correlations for high and low levels of identity and amount of total aggression were performed. Statistically, the above hypothesis would predict a positive correlation between identity level and aggression for boys and a negative correlation for girls. For boys the point biserial correlation was .11 and for girls it was .00 (each with 31 df). Clearly, neither correlation was significant and thus the hypothesis was not supported.

The data from the stereotype scores were compared with aggression scores to test essentially the same hypothesis as presented in the above paragraph. The data from the stereotype scores were correlated within sex groups with aggression scores using a tetrachoric correlation coefficient, rt. Within group median splits were used in calculating the rt coefficient.

Table 7

Total Aggression Means for All Subjects (N=66) in Terms of Both
Age and Gender Identity Level

Boys--Identity Level

Girls--Identity Level

Age	Boys--Identity Level				Girls--Identity Level			
	High		Low		High		Low	
	<u>N</u>	<u>M</u> Aggr.	<u>N</u>	<u>M</u> Aggr.	<u>N</u>	<u>M</u> Aggr.	<u>N</u>	<u>M</u> Aggr.
3	4	35.25	7	39.42	4	30.20	7	28.30
4	8	39.25	3	33.00	2	24.00	9	28.20
5+	10	38.30	1	29.00	8	28.12	3	29.10
Total	22	38.90	11	36.70	14	28.14	19	28.37

Table 8

Number of subjects at within Sex Levels of Stereotyping
and Total Aggression (N=66)

Boys			Girls		
Stereotype Level	Aggression Level		Stereotype Level	Aggression Level	
	High	Low		High	Low
High	<u>N</u> =8	<u>N</u> =8	High	<u>N</u> =6	<u>N</u> =11
Low	<u>N</u> =8	<u>N</u> =9	Low	<u>N</u> =9	<u>N</u> =7

The within group splits were done for two reasons. First, there was an artifact in the measure of stereotyped behavioral expectations which favored male role responses over female ones. Second, the aggression scores between the sexes were so different that the populations in terms of sex had to be considered as different. Thus aggression scores of 37 points and higher were considered high and those of 36 points and lower were considered low for the boys. For the girls 27 points and above was considered high and 26 and below was considered low total aggression. For boys' stereotype scores 7 points and above were considered high stereotyping and scores of 6 points and below were considered low. For the girls stereotype scores of 5 points and above were considered high stereotyping and scores of 4 points and below were considered low. The correlation for boys between stereotype and aggression scores was .05 and was not significant. The correlation for girls between stereotype and total aggression scores was $-.33$ and was significant ($p < .05$, for 31 df). Thus, although the initial hypothesis for both sexes was not supported, the significant negative relationship for girls between their level of stereotyped sex-role expectations and their amount of total aggression supported the hypothesized relationship.

Finally, it was hypothesized that there is a positive relationship between gender identity and stereotyped sex-role expectation scores. The Pearson product-moment correlation between the sets of scores was significant ($r = .33$, $p < .01$ for 64 df). Thus there was a relationship between the two measures, but it was not a strong one.

Chapter IV

Discussion

The main hypotheses of this study were not well supported by the data. Gender identity was hypothesized to be a measure of cognitive development and as such, the identity scores were expected to increase with age but to show no sex differences. There was no main effect for age and the sex effect approached significance on the girl card ($p < .10$) but was not significant for the total scores. Thus, gender identity as measured by the Boy-Girl Identity Task did not increase with age, in contradiction to the expected result.

Stereotyped sex-role expectations were seen as being a cognitive measure less abstract than, but related to, gender identity. Therefore, stereotyped behavioral expectation scores were hypothesized to increase with age. This hypothesis was supported by the data. For both boys and girls there was a consistent increase in their knowledge of stereotyped sex-roles as their age increased.

The young boys and girls (age 3) were hypothesized to be similar in their amount of total aggression while the older children would be more differentiated with girls expected to be lower and boys higher. This hypothesis was strongly contradicted by the results. Boys at all ages were very similar to each other and were much higher in total aggression than all age groups of girls which were also very similar to each other in total aggression.

The hypothesis that older boys display more aggressive behavior (intent of injury or destruction) than girls and that girls display relatively more

prosocial or assertive behavior also was not supported by the results. Within sex groups, boys were slightly more aggressive than assertive and girls were slightly more assertive than aggressive, but neither of these differences approached significance.

The main hypothesis of this study concerned the prediction of cognitive theory that children high in gender identity would be much more likely to behave in a sex-typed manner (as measured by aggression) than children low in gender identity. The higher levels of cognitive development in terms of sex roles was expected to have a causal effect on the performance of sex-typed behavior. Specifically, it was hypothesized that boys high in gender identity display the most total aggression while girls high in gender identity display the least. Boys and girls low in gender identity were hypothesized to be much closer in total aggression and score between the other two groups. As might be anticipated from the previous findings, there was virtually no relationship between the children's level of identity and their amount of aggression.

Stereotype scores, assumed to be a measure of cognitive development of sex-typing ability, were compared to the children's amount of total aggression to investigate the hypothesis that the level of stereotyping ability is related to the amount of sex-typed behavior of the children in this study. Within sex comparisons of the scores were correlated with within sex comparisons of aggression. Again, there was no relationship between the boys' stereotyping ability and their amount of aggression. However, there was a significant negative relationship between the girls' stereotyping ability and their level of aggression. Thus the hypothesis was not supported for the

boys, but the data did indicate a relationship between the girls' level of conceptual development and their amount of sex-typed behavior.

Finally, it was hypothesized that the child's level of gender identity and ability to stereotype should be positively related since they are both supposed to be measuring aspects of the same phenomenon; knowledge about sex roles. This hypothesis was supported by the results. However, the correlation was very small ($r = .33$) for two measures intended to assess the same construct. Gender identity scores were not found to increase with age in the hypothesized manner. The performance of the girls was mainly responsible for this unexpected result, with the youngest girls scoring the highest of all of the females; the 4-year-old girls scored lowest of all the children. Boys did increase from age 3 to 4 but not from age 4 to 5. Since age was not a reliable predictor of ordering the children's level of gender identity, the author was led to the conclusion that the Boy-Girl Identity Task was not a reliable cognitive-type measure of young children's knowledge of sex roles. This was Emmerich's (1971) conclusion about the Task for 3 1/2-year-olds.

It is possible that the Boy-Girl Identity Task is not a reliable instrument with older children either. The present author's results do not differ greatly from those of Devries (1972) for bright, average, and retarded children 5, 6, and 7 years of age. None of the means of the girls' scores increased with age in her study. The 7-year-old girls in the three intelligence groups always scored lower than the 6-year-old girls. Only the bright and retarded 7-year-old boys scored higher than the 6-year-old boys. The 7-year-old boys scored lower than the 6-year-olds. Devries found a significant main effect for age ($p < .05$), but her means for age showed the

same irregularity as those of the present study. The age effect certainly cannot be considered to be as strong as she claimed. There was also a great deal of variation between the sexes in the different ability groups. A significant age by sex interaction was found in the present study. Devries (1972) reported that her age by sex interaction approached significance ($p < .10$).

Another problem with Devries' methodology is that she used chronological ages to classify her bright and average subjects but mental age to classify her retarded subjects. It would seem that all the subjects should be grouped by either mental age, since the Boy-Girl Identity Task is a measure of cognitive development, or chronological age, independent of I.Q., to control for intelligence. Her comparisons between the three ability groups are questionable. She found both her retarded and bright children performed significantly better than her average group. The gender identity results of the present study were consistent with Emmerich's (1971) evaluation of the Boy-Girl Identity Task. He found the task unreliable, a contradiction of Devries' (1972) findings. Because of the inconsistent age and sex performance of the children in both Devries' (1972) research and in the present study, and the problem created by Devries' approach to group comparisons, the findings suggest that the Boy-Girl Identity Task is not a valid measure of the cognitive aspects of gender identity.

Other factors may have been involved in the unreliability of the Boy-Girl Identity Task as well. It may have been the case that the theoretical construct of gender identity is too far removed from the phenomenon it was intended to measure, children's knowledge of rules about the state of, and the behavior of people who are members of the different sexes. Or, on the

other hand, the nature of the task may have been too complex for some of the children to understand. The children were asked to pretend the pictured child was real. They may have had difficulty making the transition between fantasy and reality. In Devries' (1969) research on generic identity she used a real cat. Perhaps a real person changing clothes and putting on a wig while partly exposed to the subject is required to make the task more concrete and less complex.

In contrast, stereotyped sex-role expectations, as a measure of cognitive development, appeared to be more reliable than identity scores in ascertaining the child's knowledge about sex-typed behavior. The hypothesis was strongly supported that stereotype scores increase steadily with age as would be expected of an adequate cognitive measure. However, it should be recalled that there was an unexpected strong main effect for sex. On the stereotype measure, it was the author's experience that there was a strong qualitative difference between the younger children who did not know about stereotyped sex-role expectations and those who did. This difference might explain the unhypothesized main effect for sex.

When a 3-year-old boy did not know a stereotyped sex-role expectation, he would answer "boy" for each unknown stereotype; likewise a 3-year-old girl would answer "girl" for each unknown. Most of the youngest group of children could not clearly define sex-typed behavior. The difference between the boys' scores and those of the girls (the boys were clearly higher) may have represented the effect of an artifact in the scale. Since there were five male and three female-oriented answers, boys simply by naming their own sex when in doubt, would score higher than girls. Many 3-year-old

children gave such ego-centered answers for all the questions and 4-year-olds had a similar problem with egocentricity although, on the average, they were able to give at least one appropriate answer about the opposite sex's behavior. Five-year-old boys and girls, for the most part, knew their own and the opposite sex's expected sex role. There was virtually no difference between the stereotype scores of the 5-year-old boys and girls. There were few ego-centered, labeling-type responses. When they did not know the answer, the 5-year-old children answered "boys and girls." In summary, the significant main effect for sex on the stereotyped sex-role measure may have resulted from the predominance of male-oriented correct responses in conjunction with the young children's ego-centered responses.

The present author considers the measure of stereotyped sex-role expectations to be a reasonable beginning in the evaluation of children's conceptualizations about sex-roles. The scale does appear reliable as a cognitive-developmental measure in that the scores increase with age. The sex differences might well be eliminated by equalizing the number of stereotypes appropriate for each sex. Also the face validity of the stereotype scale is much closer to the intended theoretical construct than is the Boy-Girl Identity Task.

There are, however, further limitations with the stereotyped sex-role expectations scale although it is possibly reliable as an instrument of cognitive assessment, it was originally put forth as a supplementary pilot measure. It only contains eight items. It cannot be considered an in-depth measure of cognitive development about sex roles. The author considers it a promising cognitive measure because stereotyped sex-role expectations involve

the child making rules about experience rather than choosing a toy or activity or abstracting about physical states. Intuitively, this type of measure bridges the gap between cognition and behavior better than the other types of measures previously discussed.

The hypotheses concerning assertive behavior, aggressive behavior, and total aggression were contradicted by the data since boys were found to be consistently and significantly higher than girls in all forms of aggression. The consistency of the scores is very striking considering that three different teachers rated children at each age level. The present author is convinced the Assertive and Aggressive Behavior Rating Scale is a reliable measure of overt aggressive behavior for three reasons. First, the inter-rater reliability was found to be satisfactory. Second, a great deal of effort was expended in making the Scale objective and behavioral therefore eliminating ambiguity and giving it high face validity. And finally, the consistency among the various age groups tends to contraindicate rater bias. Although the possibility exists that the teachers were affected by their own conceptions of male and female stereotypes in relation to aggressive behavior, the behavioral nature of the Scale appears to diminish this possibility. Thus it is believed that the Scale measures what it was intended to measure. Boys did display more total aggression and girls less, in contradiction to the hypothesized age-related differences in aggression.

There were, however, some slight indications that boys themselves were more aggressive than they were assertive and the girls more assertive than they were aggressive, but the differences were not significant. If these within sex patterns were found to be the case, then comparing between the

sexes masks the qualitative difference between boys and girls. The differing pattern between assertive and aggressive behavior for boys and girls may be consistent with the stereotype of adult male and adult female aggression. Lefkowitz (1962) emphasized that studies of preferences of boys and girls require within sex comparisons. He said that comparing across sexes misses qualitative patterns of within sex development. He argues for developing separate preference scales for boys and girls and emphasizing within sex comparisons. The present author agrees with Lefkowitz and would like to extend his point to behavioral measures of sex-typed behavior, especially manifest aggression. Comparisons between boys and girls are necessary but not sufficient. In order to understand the sex-typing phenomenon, within sex comparisons are required to ascertain the development of appropriate sex-role behavior. Perhaps even different behavioral measures will resolve the difficulty, one measure for boys and one for girls. For example, a questionnaire item "How many times did the child start a physical fight in school today?" may not be applicable to most girls, where it would be assessing boys' aggression.

The results of the total aggression scores were consistent with the majority of studies of sex differences in aggression (Feshbach, 1970). Boys were higher in assertive behavior than girls. Some authors (Muste & Sharpe, 1947; Sears, Rau & Alpert, 1965) found girls the same as or slightly higher than boys in their verbal aggression, a construct which is similar to but not congruent with assertive behavior. The concepts are similar enough to state with confidence that the present study's results contradict their findings as well as those studies where no sex differences were found in preschool

boys and girls (McKee & Leader, 1955; Sears, Whiting, Nowlis, & Sears, 1953) in any type of aggression.

The results from the Assertive and Aggressive Behavior Rating Scale are interpretable from either a learning or genetic-constitutional point of view, but not from a cognitive one. The pattern of all means for the aggression measures indicates that boys and girls were acting in a sex-typed manner even before they were able to understand what they were doing. If this were the only fact to be discerned concerning sex-typed behavior, cognitive theory would have to be considered superfluous because it would only add an extra (rather than an alternative) explanation to the sex-typing phenomenon which is more parsimoniously explained by the two other viewpoints referred to above. The author still considers cognitive theory a viable approach to the explanation of sex-typing. It is believed that there are problems with the Scale which are not immediately apparent because of its high reliability. The author would now like to relate an anecdote; the story of how he came to do the present investigation, and then relate the anecdote to the problems with the Scale.

A teacher of the 5-year-olds in the parent-run school used in the present study as well as the parents of these children were upset because their children were "over sex-typed." This was a liberal school, and one of their main concerns was eliminating as much sex-typing as possible. Neither the parents nor the teachers of the 3- and 4-year-old children in the school were bothered by the children's over-display of sex-typed behavior. When visiting the school, the author could see a qualitative difference between the behavior of the younger children and the 5-year-olds. Younger children of

both sexes played together. The 5-year-old boys played with boys, and the girls with girls. The author believed the phenomenon of qualitative change was explicable in terms of cognitive theory and the present study was undertaken. However, no quantitative differences in aggression were found at different age levels. As a follow-up to the anecdote the teacher who had the 4-year-olds last year is now with the same children who are now 5. The teacher says she is amazed at the transition in the children. Last year the boys and girls played well together; now they hardly ever are involved in the same activity. The boys are continually attacking the girls who are huddled in the corner crying. The purpose of relating this anecdote is to point out that although the frequency of aggressive behavior was the same for all ages, the manner in which the older children display aggression is different from that of younger children. This qualitative difference was not picked up by the quantitative Assertive and Aggressive Behavior Rating Scale.

To the author the qualitative difference in aggression is due to self-directed vs. reactive or learned aggressive behavior. The older children in the study were continually saying "Boys play monsters, girls don't." The children were actively organizing their world in terms of their own sex against the other. At this age, peer groups begin to organize themselves around the sex of the members. Thus behavior related measurement of the effect of sex-role cognitions has to look to the type of the behavior as well as its frequency. Behavior which involves structuring the environment is more likely to be self-directed. The children's stating rules about their activities and then following them represents the relationship between

cognitive development and behavior.

Although reinforcement or imitation history may be offered as an alternative explanation, the following articles may be interpreted in terms of the cognitive theory of sex-role development. Bandura (1962) noted that boys imitate male models more than girls, and girls imitate female models more than boys. Bandura, Ross, and Ross (1963) investigated the responses of 48 boys and 48 girls who were exposed to live and film models of both sexes who acted aggressively. Following mild frustration, the children's behavior was rated in terms of imitative aggression. The authors found that sex of the model, sex of the subject, and sex-appropriateness of the model's behavior were influential factors in determining the extent and type of modeling. The implications of this study are that the child knows his own sex, that of the model, and what is appropriate sex-typed behavior. Knowledge of sex-roles seemed to influence the children's choice of what they would imitate. Although the present study did not support cognitive theory, the author believes limitations in the measures used did not give the theory an adequate test.

The central hypothesis of the present investigation, that the child's level of gender identity is related to his degree of sex-typed behavior as defined by level of aggression, was not supported by the data. This hypothesis was dependent on the reliability of gender identity as an age-related cognitive measure as well as the above-mentioned hypothesis about aggression in terms of sex and age. Neither the hypothesis concerning gender identity nor that concerning total aggression was supported; therefore, the comparison between the two measures (based on the separate hypotheses) was not supported.

Boys' level of stereotyping was not related to their own level of aggression. This result contradicted the hypothesized relationship. There was a significant negative correlation for girls that was originally expected. Because of the lack of support for the hypothesis concerning age and aggression (that their total aggression would increase with age) and the fact that the boys' stereotype scores did increase with age, it is not surprising that there was virtually no relationship between the boys' stereotype scores and their amount of aggression. It is more difficult to explain the phenomenon that the girls' aggression level was significantly albeit moderately, related to their amount of aggression.

Behaviorally, the girls may be a qualitatively different population than the boys. The variation in their aggression scores is much less than for the boys. Because their aggressive behavior is more consistent than that of boys', knowledge of sex-typed behavior may exert a more powerful influence on what the girls do. The girls' aggression scores did decrease slightly with age, but the difference between ages was not significant (not even one-half of a standard deviation). Somehow the stereotype measure "cut through" the problems of the age and aggression hypothesis and sorted the girls in the hypothesized manner. In summary, it is perhaps because the girls' aggressive behavior is less variable than the boys' that the same absolute amount of cognition (the stereotype scores and their variance are similar for both boys and girls) about sex-appropriate behavior exerts a more consistent though relatively slight effect on girls' aggressive behavior than on boys.

Unfortunately, no direct evaluation of the cognitive theory of sex-role

development is possible based on the results of the present investigation. The theoretical point in question, that the degree the child's knowledge about gender identity is positively related to his performance of his own sex's stereotyped behavior, was not supported by this study. But neither was the point refuted. This is because of the great, unexpected problems of measurement. The author is not prepared to discard cognitive theory. Other data (the social learning and imitation studies of Bandura, Ross and Ross, 1963, and the extended anecdote related above) is better explained by saying cognitions affect behavior rather than by alternative theoretical approaches. Improvement of the research tools is required to give the cognitive theory of sex-role development an adequate test.

The author believes the major significant conclusions of the present study are methodological. Further research on cognitive theory would be improved by taking note of these procedural considerations. First the Boy-Girl Identity Task in its present form is not an adequate cognitive measure of sex-role concept development. It is possible, however, to measure young children's understanding of sex roles in a direct, reliable manner by using an expanded knowledge of stereotyped sex-role expectations approach.

Thirdly, most children act in a sex-typed manner before they are able to make conceptualizations about sex roles. To investigate cognitive influences on sex-typed behavior, new measures are required which can qualitatively separate sex-typed activity into behavior which is the result of the influence of a concept from behavior which is the result of habit. The author predicts that the habit exists before the development of concepts about sex-roles; the self-directed sex-typed behavior will occur only when the child

has the specific sex-role concept. Finally, there are such great behavioral differences between the behavior of boys and girls that more emphasis needs to be placed on within sex patterns of development. Little is known about how girls develop, only that they are different from boys. Separate scales of behavior, one for boys and one for girls, are a necessary step in studying the development of sex-typed behavior as well as the development of sex differences.

Summary

Kohlberg (1966) presented a cognitive-developmental model for understanding the development of sex-typed behavior in young children. He stated that the child's eventual conceptualization of sex differences, which he called gender identity, is of central importance in the child's attaining a stable socially consistent sex role. Thus, for Kohlberg, the child's level of gender identity is a causative factor in the child's degree of performance of sex-typed behaviors. Both Kohlberg (1966) and Devries (1972) have demonstrated the gradual development with age of gender identity. The present study was a test of the cognitive-developmental model. The present author investigated the relationship between young children's level of gender identity and their amount of performance of one-sex-typed behavior: manifest aggression.

The subjects of this study were 33 boys and 33 girls 3, 4, and 5 years of age from varying racial and socioeconomic backgrounds. They came from a parent-run preschool and a day-care center. Permission for the subjects' participation was obtained from each parent.

It was hypothesized that two different measures of cognitive development of sex-typing, the Boy-Girl Identity Task and the stereotyped sex-role expectations scale, are positively related to the performance of one element of sex-typed behavior in young children, i.e., a high amount of aggression for boys and a low amount of aggression for girls. The hypothesis was not supported by the data.

The reasons for the lack of support for the hypotheses were considered to be problems in measurement. The Boy-Girl Identity Task was found to be

unreliable. The scores did not regularly increase with age and there appeared to be sex differences in performance on the task. Also the author suggested that a qualitative rather than a quantitative measure of aggression was required to assess the effects of cognition on the performance of sex-typed behaviors. This suggestion was put forth because children were already sex-typed at age 3. Boys at all ages were far more aggressive than the 3, 4, and 5 year-old girls even though few of the 3-year-old children were able to conceptualize about sex roles. However, the manner in which they exhibited their behavior was different in the older subjects. The older children grouped themselves and organized their activities around their ideas about appropriate sex-roles while the younger ones did not.

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Appendix A

Name: _____

BOY-GIRL IDENTITY TASK

I. GIRL

(show girl picture) THIS IS A GIRL, ISN'T IT? HER NAME IS JANIE.

1. (show girl picture) IF JANIE REALLY WANTS TO BE A BOY, CAN SHE BE?

Circle response:

no If no: WHY NOT? _____

yes

other (specify): _____

2. (show girl picture) IF JANIE PLAYED WITH TRUCKS AND DID BOY THINGS, WHAT WOULD SHE BE? WOULD SHE BE A GIRL OR WOULD SHE BE A BOY?

Circle response:

girl If girl: WHY WOULD SHE STILL BE A GIRL? _____

boy

other (specify): _____

3. (show girl picture) IF JANIE PUTS ON BOY CLOTHES LIKE THIS (flip bottom portion only), WHAT WOULD SHE BE? WOULD SHE BE A GIRL OR WOULD SHE BE A BOY?

Circle response:

girl If girl: WHY WOULD SHE STILL BE A GIRL? _____

boy

other (specify): _____

4. (show girl picture) IF JANIE HAS HER HAIR CUT SHORT LIKE THIS (flip top portion only), WHAT WOULD SHE BE? WOULD SHE BE A GIRL OR WOULD SHE BE A BOY?

Circle response:

girl If girl: WHY WOULD SHE STILL BE A GIRL? _____

boy

other (specify): _____

5. (show girl picture) IF JANIE HAS HER HAIR CUT SHORT LIKE THIS (flip top portion), AND WEARS BOY CLOTHES LIKE THIS (flip bottom portion), WHAT WOULD SHE BE? WOULD SHE BE A GIRL OR WOULD SHE BE A BOY?

Circle response

girl If girl: WHY WOULD SHE STILL BE A GIRL? _____

boy

other (specify): _____

II. BOY

(show boy picture) THIS IS A BOY, ISN'T IT? HIS NAME IS JOHNNY.

1. (show boy picture) IF JOHNNY REALLY WANTS TO BE A GIRL, CAN HE BE?

Circle response:

no If no: WHY NOT? _____

yes

other (specify): _____

2. (show boy picture) IF JOHNNY PLAYED WITH DOLLS AND DID GIRL THINGS, WHAT WOULD HE BE? WOULD HE BE A BOY OR WOULD HE BE A GIRL?

Circle response:

boy If boy: WHY WOULD HE STILL BE A BOY? _____

girl

other (specify): _____

3. (show boy picture) IF JOHNNY PUTS ON GIRLS CLOTHES LIKE THIS (flip bottom portion only), WHAT WOULD HE BE? WOULD HE BE A BOY OR WOULD HE BE A GIRL?

Circle response:

boy If boy: WHY WOULD HE STILL BE A BOY? _____

girl

other (specify): _____

4. (show boy picture) IF JOHNNY LETS HIS HAIR GROW LONG LIKE THIS (flip top portion only), WHAT WOULD HE BE? WOULD HE BE A BOY OR WOULD HE BE A GIRL?

Circle response

boy If boy: WHY WOULD HE STILL BE A BOY? _____

girl

other (specify): _____

5. (show boy picture) IF JOHNNY LETS HIS HAIR GROW LONG LIKE THIS, (flip top portion), AND WEARS GIRL CLOTHES LIKE THIS (flip bottom portion), WHAT WOULD HE BE? WOULD HE BE A BOY OR WOULD HE BE A GIRL?

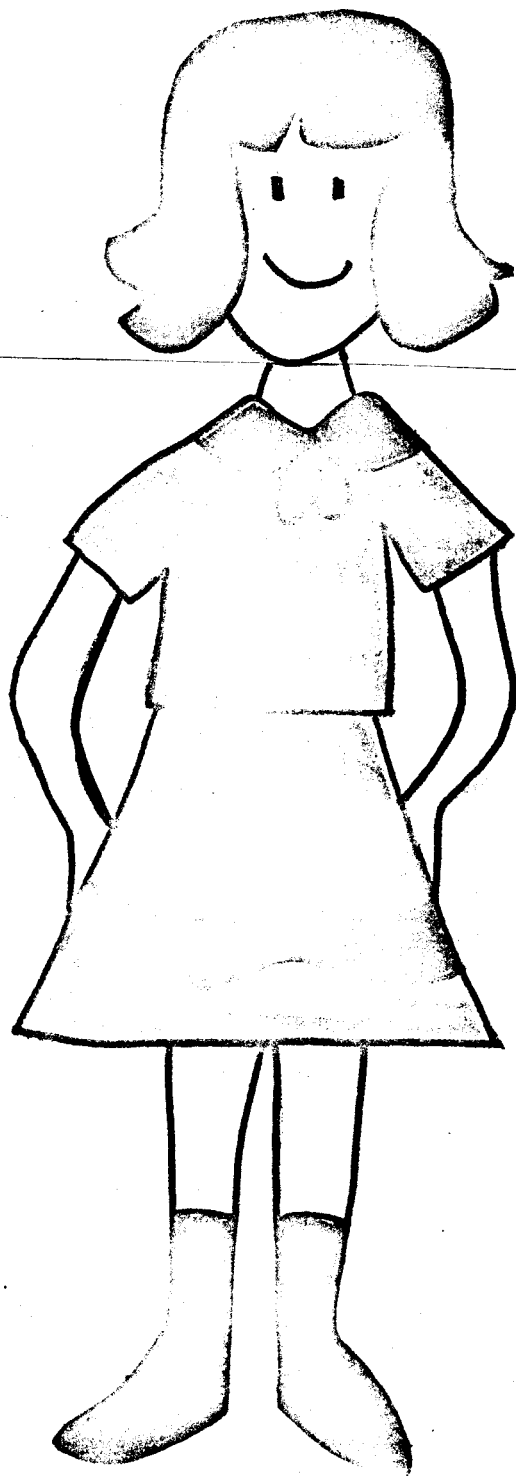
Circle response:

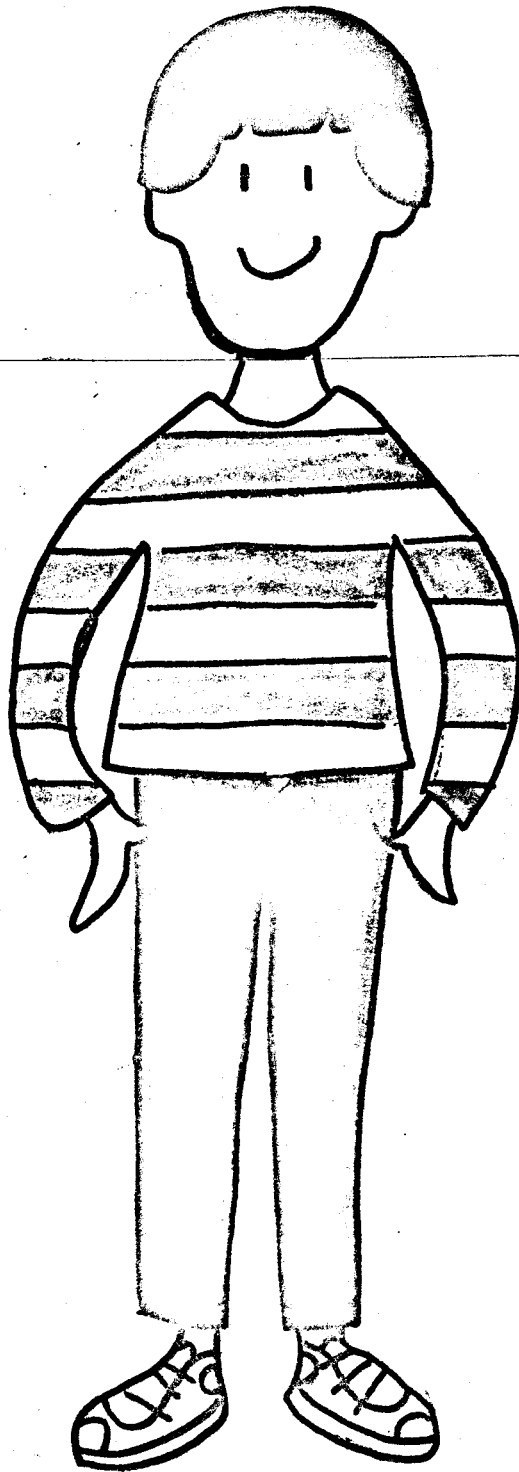
boy If boy: WHY WOULD HE STILL BE A BOY? _____

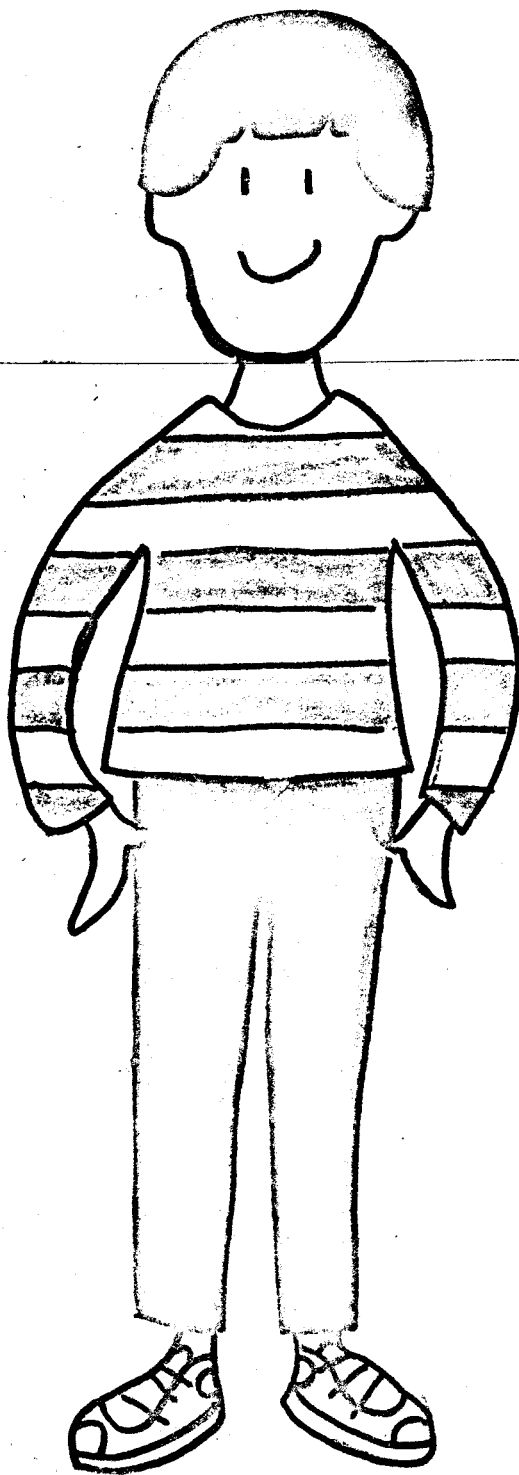
girl

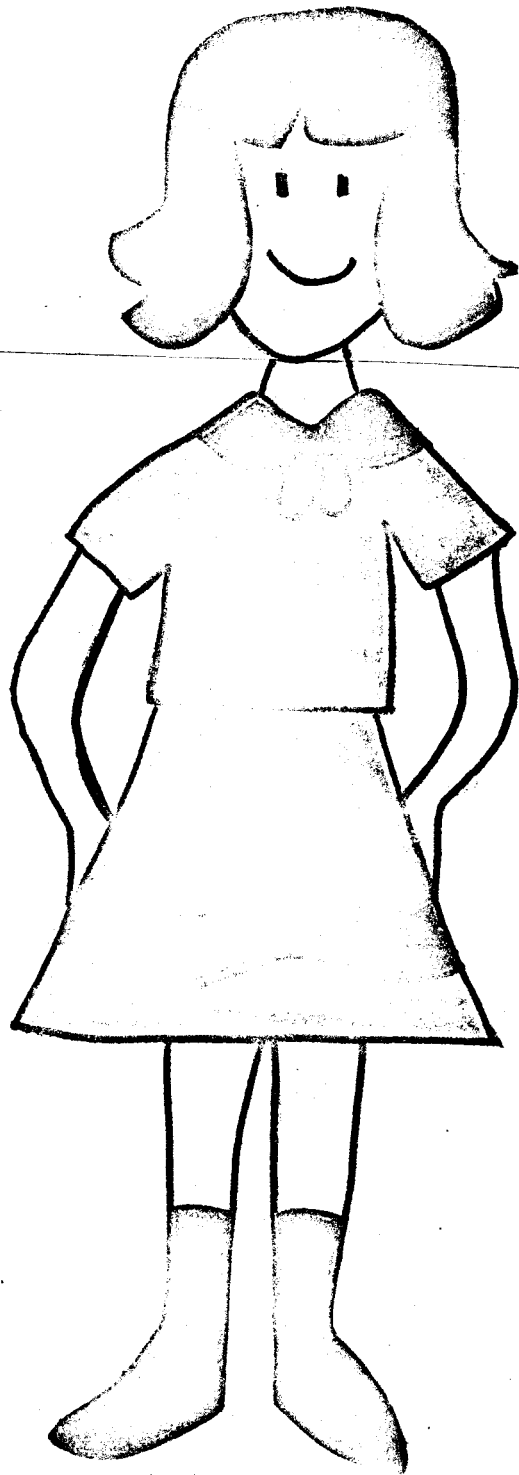
other (specify)

COMMENTS:









Appendix B

Stereotyped Sex-role Expectations Scale

1. Do you want to be a mommy or a daddy? Why? _____

2. Who is stronger, boys or girls? Why are _____ stronger?
Why are _____ weaker?

3. Who fights more, boys or girls? Why?

4. Who cries more, boys or girls. Why?

5. Who can run faster, boys or girls? Why?

6. Who can throw a ball farther, boys or girls? Why?

7. Who can climb better, boys or girls? Why?

8. Who plays with dolls more, boys or girls? Why?

Appendix C

PLEASE FILL OUT THE CHECKLIST BELOW AS SOON AS POSSIBLE AFTER
OBSERVING THE NAMED CHILD FOR ONE CLASS PERIOD

Name _____

NUMBER OF TIMES BEHAVIOR OCCURRED IN CLASS PERIOD	<u>NO TIMES</u>	<u>1-2 TIMES</u>	<u>3-4 TIMES</u>	<u>5-6 TIMES</u>	<u>MORE THAN 6 TIMES</u>
1. Started a physical fight	_____	_____	_____	_____	_____
2. Fought back physically when attacked physically	_____	_____	_____	_____	_____
3. Fought back physically when picked on	_____	_____	_____	_____	_____
4. Hit, pinched, slapped, or kicked another person	_____	_____	_____	_____	_____
5. Bit or scratched another person	_____	_____	_____	_____	_____
6. Made fun of, made jokes about, teased, or embarrassed another person	_____	_____	_____	_____	_____
7. Insulted or said mean things to another person	_____	_____	_____	_____	_____
8. Tattled on or made up stories about another person	_____	_____	_____	_____	_____
9. Forcibly took an object from another person	_____	_____	_____	_____	_____
10. Forcibly interrupted another's play	_____	_____	_____	_____	_____
11. Broke or abused objects (stamped on toy, marked on furniture, etc.)	_____	_____	_____	_____	_____

Name _____

NUMBER OF TIMES BEHAVIOR OCCURRED IN CLASS PERIOD	<u>NO</u> <u>TIMES</u>	<u>1-2</u> <u>TIMES</u>	<u>3-4</u> <u>TIMES</u>	<u>5-6</u> <u>TIMES</u>	<u>MORE THAN 6</u> <u>TIMES</u>
12. Yelled, shouted, screamed, or made other kinds of noise to get another person or persons' attention	_____	_____	_____	_____	_____
13. Engaged in one-upmanship (I am better than; mine is bigger than)	_____	_____	_____	_____	_____
14. Ordered other people to do something	_____	_____	_____	_____	_____
15. Refused obstinately to do what another person asked him to do	_____	_____	_____	_____	_____
16. Argued when he felt he was right	_____	_____	_____	_____	_____
17. Demanded to have his own way in a game or activity	_____	_____	_____	_____	_____
18. Cried or got angry to get his own way	_____	_____	_____	_____	_____
19. Played games having violent themes (cops and robbers, with guns, monsters, batman, etc.)	_____	_____	_____	_____	_____
20. Led or made rules for games described above in #19	_____	_____	_____	_____	_____
21. Tried to bargain to get his own way	_____	_____	_____	_____	_____
22. Pushed people out of the way to get somewhere	_____	_____	_____	_____	_____

APPROVAL SHEET

The thesis submitted by Victor J. Bernstein has been read and approved by members of the Department of Psychology.

The final copies have been examined by the director of the thesis and the signature which appears below verifies the fact that any necessary changes have been incorporated and that the thesis is now given final approval with reference to content and form.

The thesis is therefore accepted in partial fulfillment of the requirements for the degree of Master of Arts.

January 9, 1973

Date

Jeanne M. Foley

Advisor's Signature